



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: R.S. Stephens et al. Attorney Docket No.: WEYE121926/25350  
Application No.: 10/815,159 Art Unit: 1731 / Confirmation No: 8194  
Filed: March 31, 2004 Examiner: D.R. Cordray  
Title: WHITENED CROSSLINKED CELLULOSIC FIBERS  
AND RELATED METHODS

**DECLARATION OF KATHY A. WELCH PURSUANT TO 37 C.F.R. § 1.131**

Seattle, Washington 98101

March 7, 2006

**TO THE COMMISSIONER FOR PATENTS:**

I, Kathy A. Welch, declare as follows:

1. I am employed by Weyerhaeuser Company as a Scientist.
2. I have read and am familiar with U.S. Patent Application No. 10/815,159 ("the '159 application").
3. I have read and am familiar with U.S. Patent Application Publication No. US 2003/0208859 A1 ("the Neogi reference") that published November 13, 2003.
4. Prior to the publication date of the Neogi reference, I conducted several pilot line trials preparing whitened crosslinked fibers under the direction of Scott Stephens, Ph.D., an inventor of the subject matter claimed in the '159 application. The following describes a pilot line run (Trial 81) that provided whitened crosslinked fibers having the compositions described in Table 1 of the '159 application.
  - a. In Trial 81, southern pine kraft pulp (CF416) was treated with an impregnation solution including citric acid (crosslinking agent), sodium hypophosphite (SHP, crosslinking catalyst), and a dye (Pergasol Blue PTD or Pergasol Blue NLF) as set forth on pages 35 and 36 of my laboratory notebook (Exhibit A and Exhibit B, respectively, attached to this declaration). The target dye treating conditions for the trial,

LAW OFFICES OF  
CHRISTENSEN O'CONNOR JOHNSON KINDNESS<sup>LLC</sup>  
1420 Fifth Avenue  
Suite 2800  
Seattle, Washington 98101  
206.682.8100

Runs A-X, were as set forth on page 36 of my laboratory notebook (Exhibit B, Run Matrix). Runs A-D and M-P were control runs and did not include a dye. The treated pulp was separated into individualize fibers and cured to provide citric acid crosslinked fibers.

b. Citric acid crosslinked fibers were treated with a bleaching agent that was either hydrogen peroxide or a combination of hydrogen peroxide and sodium hydroxide. The target bleaching agent treating conditions for the trial, Runs A-X, were as set forth on page 36 of my laboratory notebook (Exhibit B, Run Matrix). Runs A, E, I, M, Q, and U were control runs and did not include treatment with a bleaching agent.

c. Runs A-X had the process parameters as set forth on pages 45 and 46 of my laboratory notebook (see Exhibit C and Exhibit D attached to this declaration) and produced citric acid crosslinked fiber samples.

d. For each run, five (5) samples were taken (see, for example, Samples A1-A5 through X1-X5 in Exhibit C). Each run was sampled at the baler feed and the samples were taken at approximately two minute intervals during each run.

e. Hunter *L*, *a*, and *b* values were measured for Samples A1-A5 through X1-X5. The results were tabulated as set forth on pages 47-50 of my laboratory notebook (see Exhibits E-H, respectively, attached to this declaration).

f. Samples A1-A5, B1-B5, Q1-Q5, R1-R5, U1-U5, V1-V5, E1-E5, F1-F5, I1-I5, and J1-J5 correspond to Entries 1-10, respectively, of Table 1 of the '159 application.

5. All of the whitened crosslinked cellulose fibers described above were prepared prior to November 13, 2003. In accordance with accepted Patent Office practice, the dates in my laboratory notebook pages presented in Exhibits A-H have been redacted.

6. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted,

Date: 3/7/06

Kathy G. Welch  
Kathy A. Welch

GER:md

LAW OFFICES OF  
CHRISTENSEN O'CONNOR JOHNSON KINDNESS<sup>LLC</sup>  
1420 Fifth Avenue  
Suite 2800  
Seattle, Washington 98101  
206.682.8100